tion, I have of late treated several cases with laxatives or purgatives, in the hope of preventing thereby the absorption of poisonous substances from the intestines. As to the results of such treatment I am not yet prepared to speak.

# EXPERIMENTAL RESEARCH SHOWING THAT URIC ACID SECRETION IS NOT REGULARLY DIMINISHED IN THE PERIOD PRECEDING EPILEPTIC SEIZURES.

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The toxic theory of disease-processes, and especially of the periodical and occasional neuroses and psychoses, has so warmly commended itself to the minds of physicians of our generation, and has been utilized with such eagerness as a basis of therapeutics, that sufficient pause has not often been made to ascertain whether the data on which the clinical statements have been based would stand the searching test of really accurate and critical analysis.

For my own part, I believe that the point of view itself has often been wrong, and that, at least so far as the neuroses and psychoses are concerned, it may prove that the toxic theory of their pathogenesis should take a subordinate place, and that a more fruitful line of research would be one that looks on these affections as caricatures of normal states, their peculiarities being expressible, no doubt, in chemical terms, but better, it may turn out, in those of physiological reaction or anatomical structure.

This search for toxic causes has naturally been especially active with regard to epilepsy, and has been held by many observers as representing, indeed, the only rational outlook for an explanation of its symptoms, though of late the "inhibition" theory, as expressed, among others, by Oddi, the Italian physiologist, has been advanced as a promising alternative.

One of the most recent supporters of the toxic theory of epilepsy is Kräinsky, a Russian physician and chemist, who has made several long series of apparently painstaking experiments, the results of which are recorded in the *Zeitschrift für Psychiatrie*, 1898, and elsewhere. This paper opens with the very positive and reiterated statement, on which, indeed, the final reasoning and conclusions are based, that the excretion of uric acid is invariably diminished before each outbreak of "idiopathic" epilepsy, the diminution sometimes immediately pre-

| Patient. | Date. | Seizure. | Amount of urine. | Uric acid by first analysis. | Uric acid by control analysis. | Average. | Amount of uric acid in 24 hrs. |
|---|---|---|---|---|---|---|---|
| *[1] Case one | Oct. 22, 1899 | Before | 1370 c.c. | 0.0641 | 0.0620 | 0.063 | 0.431 |
| * " " | " 23, " | " | 2810 " | 0.0309 | 0.0288 | 0.029 | 0.419 |
| * " " | " 24, " | Seizure | 520 " | 0.0618 | 0.0560 | 0.059 | 0.153 |
| * " " | " 25, " | None | 1670 " | 0.0159 | 0.0121 | 0.014 | 0.116 |
| * " " | Nov. 26, " | Seizure | 2100 " | 0.0313 | 0.0272 | 0.0293 | 0.307 |
| * " " | " 27, " | None | 1710 " | 0.0532 | 0.0500 | 0.0516 | 0.441 |
| * " " | " 28, " | " | 530 " | 0.1408 | 0.0270 | 0.0339 | 0.355 |
| * " " | Dec. 2, " | " | 1260 " | 0.0992 | 0.0904 | 0.0948 | 0.597 |
| * " " | " 3, " | " | 2260 " | 0.0432 | 0.0428 | 0.0430 | 0.486 |
| * " " | " 4, " | " | 1390 " | 0.0382 | 0.0372 | 0.0377 | 0.262 |
| * " " | " 5, " | Seizure | 1100 " | 0.0770 | 0.0740 | 0.0755 | 0.415 |
| * " " | " 6, " | None | 1870 " | 0.0562 | 0.0527 | 0.0544 | 0.509 |
| * " " | " 7, " | " | 1290 " | 0.0900 | 0.0820 | 0.0860 | 0.554 |
| " " | " 18, " | Seizure | 1170 " | 0.015 | 0.011 | 0.013 | 0.120 |
| " " | " 19, " | " | 870 " | 0.014 | 0.012 | 0.013 | 0.087 |
| " " | " 20, " | None | 1500 " | 0.020 + (0.2016 g. precip. out) — |  |  | 0.426 |
| * Case two | Oct. 21, " | " | 1260 " | 0.0813 | 0.0795 | 0.0804 | 0.506 |
| * " " | " 22, " | Seizure | 900 " | 0.1314 | ......... | 0.1314 | 0.591 |
| * " " | " 23, " | None | 2120 " | 0.0514 | 0.0540 | 0.0527 | 0.558 |
| * " " | " 24, " | Seizure | 1640 " | 0.0749 | 0.0481 | 0.0615 | 0.504 |
| * " " | " 25, " | None | 680 " | 0.1690 | 0.1804 | 0.1747 | 0.593 |
| * " " | " 26, " | " | 1260 " | 0.0526 | 0.0446 | 0.0186 | 0.306 |
| " " | Apr. 24, 1900 | " | 1275 " | 0.0550 | ......... | 0.0550 | 0.522 |
| " " | " 25, " | " | 1600 " | 0.026 | 0.025 | 0.0255 | 0.30 |
| " " | " 26, " | " | 1110 " | 0.037 | 0.033 | 0.035 | 0.28 |
| " " | " 27, " | " | 1060 " | 0.030 | 0.029 | 0.0295 | 0.23 |
| " " | " 28, " | " | 1135 " | 0.017 | 0.010 | 0.013 | 0.10 |
| " " | " 29, " | Seizure | 1150 " | 0.022 | 0.019 | 0.025 | 0.17 |
| " " | " 30, " | None | 540 " | 0.0081 | 0.0080 | 0.008 | 0.032 |

It seemed to us that the best way to begin, at all events, would be to examine a continuous series of twenty-four hour specimens, to ascertain whether uric acid excretion was different on seizure days from that on free days. We did, however, in one or more instances, examine anti-paroxysmal specimens, but without finding such differences as encouraged to further pursuit of this method.

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[1] All the analyses marked in the table by an asterisk (*) were done by the older method of analysis as given in Hoppe-Seyler's Handbuch der Chemischen Analyse, Berlin, 1893, p. 358.
All the analyses not so marked were done by the same method, with a slight modification, as given in Salkowski's Practicum der Physiol. u. Path. Chemie, 1893, p. 239.